LASER PULSE

Research for Development Conference Report: Uganda 2019

December 2019

Submitted by Andrea Burniske
Program Director, LASER PULSE
Purdue University

USAID FROM THE AMERICAN PEOPLE · Makerere University · PURDUE UNIVERSITY · CRS Catholic Relief Services · INDIANA UNIVERSITY · UNIVERSITY OF NOTRE DAME

Table of Contents

Introduction/Background

The Long-term Assistance and SErvices for Research (LASER) Partners for University-Led Solutions Engine (PULSE) is a five-year USAID-funded program led Purdue University in a consortium comprising *the University of Notre Dame, Indiana University, Makerere University, and Catholic Relief Services*. LASER PULSE held its first Research for Development (R4D) conference in Kampala, Uganda May 6-8, 2019. See the Uganda R4D Conference link for the conference agenda. More than 130 participants attended. These participants represented mostly higher education institutions (HEIs) and government agencies,with less participation of implementing organizations, in the sectors of food security, water security, maternal/child health, and basic education. Click on this link for breakdown of Uganda R4D conference participant summary. In the post-conference report that follows here, we describe the pillars and how they are operationalized through the R4D Conferences - including activities in preparation for, and following, these conferences. We also highlight learning from conference implementation, around the need to adapt methodologies, conference participation, engagement of the USAID mission(s), and other lessons that result in adapted strategies for future conferences and sectoral focus development for grant proposals that follow.

LASER supports embedded research translation through a global network of universities, government agencies, non-governmental organizations, and the private sector for research-driven, practical solutions to critical development challenges in USAID interest countries (UICs). LASER supports the discovery and uptake of research-sourced, evidence-based solutions to development challenges spanning all USAID sectors and global geographic regions.

LASER PULSE is focused around three pillars: 1) Research Capacity Building, to support research enterprise overall; 2) Research Translation, to support research applied to development solutions; and 3) Sustainable

Networks, to support South-South, North-South, and researcher-practitioner collaborations in research for development.

Through these three pillars, we seek to, "*enhance discovery and application in policy and practice of university-sourced, evidence-based solutions to development challenges*."

To make progress towards our objectives in these pillars, we use a number of distinct methodologies, and a LASER-specific conference forum - the R4D conferences, held in rotating regions in countries where USAID has a presence and where the objectives of LASER PULSE find significant support in terms of promoting university collaboration with development practitioners (NGOs, government, and private sector).

Goals of the Conference

Connecting researchers with implementers as partners in development can be difficult. Researchers in academia often don't know what the most intransigent challenges are in the field. Meanwhile, NGO partners often struggle to present their challenges in terms that researchers understand as relevant to their disciplines, skills, and incentives. NGO implementers are not only challenged about how to work with researchers in development, but why they would want to work with them. In the words of one Uganda R4D conference NGO implementer:

"*Practitioners are already doing high quality research on their own and/or with evaluation partners. … Some previous experiences that will need to be overcome are: recognizing the academic research is usually years behind what practitioners are doing and so needs to catch-up.*"

Other practitioners, such as government officials and private sector representatives, may not have the kind of symbiotic relationships with UICs' academic institutions that are common in the United States, Europe, and other countries. LASER presents an opportunity to co-design solutions to development challenges in a manner

that meets the needs of all of these actors, and that seeks inclusively co-designed solutions to advance the attainment of Sustainable Development Goals. The conference showcases examples of research that was translated into products, practices, or policies as solutions to development challenges.

The R4D conferences are designed with specific objectives, to which conference activities and their outputs are aligned. The conferences have two specific aims 1) skill building that supports formation of research-practitioner teams to successfully compete for and execute research-translation projects; 2) knowledge creation that informs development of a call for proposal reflecting regional development challenges with the potential for research-based solutions. For this East Africa conference, we focused on Uganda, Kenya, and Tanzania with the priority sectors[1] of water security; food security; and early grade basic education.

We used a mix of small and large group experiences, including: research networking sessions (poster sessions, presentations, and informal events); presentations on effective practices for supporting the translation of research; presentations and focused discussions around opportunities to enhance research opportunities for women and for junior faculty.

Comprehensive Issue Analysis participants included academic researchers – who value research-based knowledge often found in the peer-reviewed literature, USAID and government officials – who seek to align knowledge with policy and priority areas, and practitioners – who often possess deep experiential knowledge that is not always backed by empirical data. Bringing these various knowledge types together can create a holistic view that is more robust than any single source of knowledge. However, that process takes time and skilled facilitation that were in short supply during some sessions.

Major learning and outcomes

Pillar One: Capacity

The LASER-PULSE initiative has capacity to embed translation of research as one of its core activities. In Recognition of the link between research capacity in general, and capacity to embed translation of research in collaboration with practitioners, Makerere University carried out a Research Capacity Assessment among its Resilient Africa Network (RAN) university partners and affiliated networks/ institutions in sub-Saharan Africa (SSA) to identify barriers to the research enterprise, and to the translation of research. The strategic objectives of this assessment were twofold: 1) collaborative teams of researchers and practitioners will need to

[1] These sectors were identified using the CIA (Now Comprehensive Success Factors [CSF]) process,

propose embedded translation to be competitive for the LASER research grant awards; and 2) LASER uses R4D forums advocate for institution and country HEI-level support for embedded translation to advance development solutions on 'the journey to self-reliance' as articulated in the USAID strategy.

The findings from this assessment were used to identify, prioritize, and describe key capacity gaps that need to be addressed in order to increase institutional support for, and researcher practice with respect to, embedded research in academic institutions of UICs. Makerere's survey through which partner institutions responded to questions such as:

- What systems and infrastructure exist to encourage and support research in addition to teaching?
- What incentives or barriers exist to disseminate and/or commercialize research?
- How can we characterize the research relationship between the government and the HEIs, and private sector and HEIs. Are HEIs seen as legitimate sources of evidence upon which to base government policies? Of innovation for private sector?
- What are incentives for junior faculty. When and how does tenure occur?
- At what point in academic careers faculty are allowed to supervise graduate students as research assistants? Do research assistantships exist? If not, what are the barriers/challenges?
- What is the level of faculty participation in development research? In what ways do they participate? How do they make these contacts?
- Do faculty contribute research products as inputs to the national development policies?
- Are any special provisions made to incentivize female researchers? Are there any conditions that discourage female faculty from the research enterprise?

The findings from this assessment were used to identify, prioritize, and describe key capacity gaps that need to be addressed in order to increase development research outputs and impacts from low-income country universities. The two most salient findings from the Research Capacity Assessment were:

- A general lack of university leadership in support of development research
- A need to ignite untapped potential from women and junior faculty

Makerere presented the findings from the HEI Research Capacity Assessment at the Uganda R4D conference in two discussion sessions that generated lively engagement as a means of stimulating thinking and discussion around institutional and practice barriers to embedding translation. Engagement around LASER's HEI capacity approach with USAID Uganda has resulted in collaboration between Makerere and the mission on capacity-building for Ugandan

regional universities, to prepare them to play an active role in the Uganda regional development initiative. These faculty will develop an advocacy strategy aimed at institutions and the HE system in Uganda for Year Two.

A capacity assessment will be carried out in at least one R4D host country per year, in order to inform our strategies in working with HEI leadership and government ministries to promote increased investment in research, and adaptation of policies that reduce barriers to embedded research translation. These annual studies will result in a multi-region assessment to be shared in a LASER PULSE Embedded Research Forum in Year Three or Four.

Success factor gap identification by sector: Comprehensive Issue Analysis[2] (CSF)

The themes that explored at the Research for Development (R4D) Conference in Uganda – food security, basic education, water, sanitation, and hygiene (WASH), and maternal and child health (MC health) – are frequently termed "grand challenges" due to their sheer complexity and implications on the lives of millions. These challenges, and others of equal importance and scale, are not new. They have been the focus of innumerable investments of funds and effort by regional and foreign governments, non-governmental organizations, faith-based organizations, and countless implementers and volunteers for decades. And while significant progress has been made, many aspects of these challenges remain very real obstacles to economic and social advancement in East Africa, and globally. LASER has substantial documentation around the CSF process, which is grounded in Innovation Science. The CSF participant and facilitators' guides, as well as the Sector Issue Trees, are under embargo until publication, but are updated to the USAID DEC.

The initial phase of CSF consisted of the team reviewing a total of 25 key documents (e.g., Country Development Cooperation Strategies, National Development Plans). The team also obtained input from 19 academic researchers

[2] Comprehensive Issue Analysis has been retitled as Comprehensive Success Factors. We will use the acronym CSF henceforth in this document.

and development implementers with the requisite sectoral expertise.

Following this process, Success Factor Trees (whose 'branches' relate to Table 1 below) were generated via automated iterative searches using natural language processing and pattern recognition to organize and synthesize qualitative information obtained from 160,000 – 480,000 documents (depending upon the sector) accessed from the Internet. Further streamlining and refinement (1,000 Google searches per tree, plus manual mining of approximately 1,500 on-line articles and 200 academic articles) was conducted, as well. Extensive work was subsequently undertaken to develop a protocol and materials to enable the Uganda R4D conference participants to understand how to navigate the trees during the success factor gap identification sessions at the conference.

Table 1. Example (Partial) of the Overall Structure of Success Factor Trees

Navigating the Tree

The "success factor trees" representing the comprehensive issue analyses that will be employed in the R4D workshop have been structured so that information is categorized into four major groupings, and color-coded accordingly:

1. **Security/Safety**, **Policy** and **Government** represent the necessary foundational components of the system that govern it and allow it to function. {red to orange hues}
2. **Infrastructure**, **Equipment/Supplies**, **Workforce/Talent**, **Capital/Finances** and **Practices/Mechanisms** are elemental components associated with the value chain that are used to create and make as solution available and accessible. {green to yellow hues}
3. **Awareness**, **Motivation**, **Enabling Resources**, **Adoption/Habit Conversion**, and **Outcome/Evaluation** are components associated with human behavior and solution adoption. {light to dark blue hues}
4. **Sustainability** and **Resilience** dimensions support a constant feedback loop that maintains the system, factoring in long-term growth and the potential to tolerate change or shock. {purple to violet hues}

An entire conference day was devoted to strategies to refine sectoral issue tree 'success factors' identified through the CSF methodology. Conference participants were divided into groups by sector and tasked to contribute to shaping the research agenda that would underpin the first grant round challenges by examining the issue factor trees and identifying what is not in place, and therefore what should be addressed through the RFA call. Session facilitators (two per group) had been trained in advance to lead the groups through this process, but it was clear they found it difficult to accomplish this. One reason for this was that the facilitators' manuals were very long, and many did not have a chance to read through these in advance. In the future it is necessary to shorten and simplify these, as well as to simplify the issue trees, which were very large, and seemed to overwhelm participants. Using the CSF methodologies, conference participants employed an overarching systems-view of challenges (e.g., security, policy,

markets, etc.) to fuel issue-specific sets of universal factors that should be considered for success in any sector approach. In the presence of researchers, practitioners often felt that they lacked expertise and that their knowledge was incomplete or less valuable. Moreover, the CSF process required groups to collaborate to produce deliverables. However, many participants in each group were not sector experts from one of the three focus countries of Eastern Africa, but development generalists, and so much group work was stalled as participants tried to navigate the challenges of collaborative and transdisciplinary work. There was insufficient time to build knowledge, community, and trust sufficient to allow all voices to be equally heard and respectedMoreover, despite being tasked to identify gaps, participants focused on prioritizing. Moreover, session participants defaulted to a focus on prioritizing Issue Tree factors, when the task was to identify gaps - which factors should be, but are not present in the current context for that sector. The focus on prioritizing led to outputs that were broader than anticipated and required further refinement in a post-conference phase.

A detailed description of the CSF input process during the conference, including post-conference activities and the resulting refined focus areas leading to the co-creation (between expert reviewers from USAID and LASER) of the RFA sectors can be found on the link.

LASER will seek to engage sector expertise prior to the R4D conferences in the future, in order to narrow the sector focus as much as possible so that refinement can be carried out by experts in the specific areas we identify through CSF. Moreover, adequate time is required for advance training to ensure proper facilitation of these intensive sessions.

Pillar Two: Translation

One of the objectives of the R4D conferences was to introduce to participants LASER PULSE's particular approach to embedded research translation, through collaborative partnerships between researchers and practitioners. Increasingly, researchers, practitioners, donors and policy makers are focused on the impact of research on development outcomes. This idea of how research translates into policy and practice, and ultimately to impact, has gained steam across disciplines, and is an important area of exploration and effort in the development world. There are a range of terms used for this, including knowledge translation, translational research, knowledge transfer and research translation, among others. The LASER PULSE project uses the terms Research Translation and defines it as: a co-design process between academics and practitioners, where research is intentionally applied to a development challenge, and embedded in the research project from the beginning so that the result is a tested solution adapted for use as a product, practice, or policy. USAID defines 'adapted for use' as: *"means a research product or set of research results has been tailored for non-technical audiences with*

the intent of facilitating the application of the research. Research products translated for use include, but are not limited to: policy briefs, policy recommendations, editorials, media, infographics and blogs. Incorporation of research into a systematic review can also be considered translation for use. Workshops and workshop presentations designed for decision-makers and other non-technical audiences can also be considered a research product tailored for use."

The Uganda conference devoted 3.5 hours to case study sessions (by sector), in which ignite session facilitators presented examples of partnerships for embedded translation, and then generated discussion around those examples, and around ideas and comments on how partnerships are formed for such collaboration. Additionally, a training session on research translation was provided to engage all conference participants in sessions that walked them through 'the how-to of research translation.' See **Annex A** for documentation on LASER's focus on embedded research translation.

LASER PULSE's translation strategy

LASER Integrates its approach to research translation into all the pillars of its work. LASER PULSE works to ensure research is translated into policy and practice for development impact by:

- identifying practitioner stakeholders (public, private, non-profit) to participate in LASER PULSE activities;
- facilitating connection between researchers and practitioners via the LASER PULSE network and R4D conferences;
- ensuring that the R4D conferences are engaging and accessible to both researchers and practitioners;
- supporting the deep collaboration between researcher and practitioner through the sub-granting process;
- working to ensure that research results are adapted into formats that practitioners can easily understand and use; and,
- supporting the dissemination of translated research products to encourage scale and wider application.

Pillar Three: Sustainable Network Approach

Achieving LASER PULSE goals requires creation of robust researcher-to-researcher, and researcher-to-practitioner partnerships that are sustainable beyond a preliminary, funded, short-term project. Formation of mutually beneficial connections allows organizations to

leverage scarce resources and facilitates individual and shared objectives to make a greater impact. However, successful partnership development requires social capital that enables networks or organizations and individuals to effectively work together to pursue common goals. Trust, mutual benefit, and cooperation are the key components of social capital. The only forums LASER has to engage with its network in person is the R4D conference in each country or region, and so the interest sparked and the connections forged through this forum is extremely important as a means to promote LASER network membership.

In order to sustain the membership, LASER has designed a program website that serves as a platform for 'matchmaking' of collaborative researcher-practitioner teams, where profiles are encouraged to be aligned with USAID sectors so that the network members can easily identify potential partners for LASER RFAs, and LASER can easily identify potential partners for USAID buy-in opportunities. The network members' interest in the site is for these kinds of opportunities, initially. Gradually we will build in knowledge products, as we complete buy-ins and our grantees finalize their research translation projects. One of the registration day sessions introduced conference participants to the network site, its objectives, and its functionality. At this time the functionality is not near what we would like it to be. Within year two we will introduce machine learning algorithms to suggest resources and partners to members who use the platform.

Network capacity readiness

Developing successful collaborative virtual networks requires that potential members are motivated and incentivized to participate. The Research Capacity Assessment discussed earlier in this report, and presented by Makerere, identified 5 critical areas for increasing regional university capacity in East Africa, specifically: enhanced research leadership and project management skills; empowerment of women and junior faculty; increased research translation; sustainable funding models; and institutional skill development. We assume that intentionally integrating activities/strategies that address these challenges will enhance long-term success of LASER PULSE in building research-translation partnership capacity in USAID Interest Countries (UICs). How will the R4D conferences, RFA process, and other LASER PULSE activities address these needs? What limited intentional activities can serve to increase regional university capacity and enhance readiness for successful partnerships? Because LASER partner Makerere University is located in a UIC, they are able to model this capacity building in their work with RAN network members, and regional universities that can learn from the example of Makerere. Identifying common barriers to quality research, and challenges in support for the research enterprise, are first steps to addressing these issues through advocacy efforts. Academic

networks offer a framework for such advocacy, and ensure that the same actors are not only 'at the table' over time, but that shared interests are identified and progress recorded.

Network Membership

At the time the Uganda conference was held, LASER had only six institutions from East Africa (four from Kenya and two from Tanzania, none from Uganda) registered as network members. At that time, most of our researcher members were also from the network member universities, and thus we had few to draw upon for the conference - especially as, with the exception of the food security sector, our conference sector focus areas did not align with the researchers' sector expertise. This meant we needed to seek researchers and practitioners to invite to the conference, based on professional networks of LASER staff and colleague recommendations. We urged conference invitees to register, but did not make this a prerequisite for attendance. East African membership has increased with the release of the RFA, as membership is a requirement to submit a concept note.

The LASER network seeks to comprise practitioners as well as researchers. Without practitioners as network members, there are no implementing partners to match the researchers for collaboration. LASER has felt challenged to engage practitioners. Of the 130 participants at the Uganda R4D conference, 57 were researchers and 32 were implementers.

Table 2. Uganda R4D CSF Sector-Specific Breakout Participants – 8 May 2019 (Day 3)

Participant Type	Basic Education	Food Security	M/C Health	Water Resources	Total	Female	Male
Researchers	10	17	6	13	46	20	26
Implementers	4	8	13	4	29	14	15
Donors	2	3	0	2	7	3	4
LASER Staff	6	2	7	3	18	10	8
Total	**22**	**30**	**26**	**22**	**100**	**47**	**53**

The researchers tended to 'drop in' to the conference sessions, participating in the conference for a shorter duration. And LASER recognizes the need (agreeing with the comment below from the conference feedback) to have a more intensive focus on how practitioners can work with

> This could be a great way to identify potential research and evaluation partners. I did not think that the conference did a good job of specifically identifying how researchers and development practitioners can work together. This idea is new to both groups (academics/practitioners) and it would be helpful if LASER proactively facilitated the interaction to support research translation.

researchers - particularly given that LASER seeks to match researchers with development challenges identified in 'the field,' meaning from practitioners/implementers. The following comment was from an NGO participant.

Post-Conference RFA Convening

Following the R4D Conference, the LASER PULSE team met at Makerere University's Resilient Africa Network (RAN) facilities to narrow the scope of issues that had been prioritized during the RFA development sessions (meant to use CSF input to identify 'missing factors' per each sector). Teams comprising LASER, USAID, and an expanded RAN group, worked for 1.5 days after the conference to provide greater focus to the conference inputs on the sectoral issues for the RFA. Two things became apparent during this process: 1) after going from the Systems Map to the RFA Template[3], sector teams somehow broadened their focus instead of narrowing it. It was as if, looking at the range of considerations, they attempted to include more into the final research issues; also, 2) Teams had been tasked with identifying missing factors. That is, factors that were on the issue tree for that sector, but which were not actually present in the context of the East African countries for that sector. In the post-conference convening it was obvious that teams had focused on 'priority issues,' but not necessarily on ones that were not present, nor on identifying why those factors are not present. In future conferences we will address this through preconference engagement with researchers and practitioners, through guiding practitioners through leading gap analysis sessions, and also through preconference surveys with experts who are well-prepared to identify more narrowly refined sectors.

[3] See pages 10 and 11 in this document: https://purdue.ca1.qualtrics.com/CP/File.php?F=F_3Rd2H1osNIzwfvn

Summary and Adjustments to Future R4D Conferences

The Uganda R4D conference utilized novel approaches to simultaneously identify regional development challenges with the potential for research-based solutions, and begin building the assets needed to support formation of research-practitioner teams with the necessary knowledge and skills to successfully execute research-translation projects. These were ambitious goals that we realized were unlikely to be fully realized in the span of a 2.5-day workshop. The workshop serves to illustrate the complexity and challenge inherent in team science and research practitioner partnerships – which require skills that are neither innate nor spontaneous. Following the conference, LASER PULSE sent out a survey for feedback from participants, comments from which have already been included in this document (above) in order to ensure that future R4D conferences in other regions could consider and incorporate these recommendations. Future conferences will benefit from:

- Early and consistent repetition and summary of the goals of the conference, and the applications of the inputs from the conference to shape the RFA.
- Early and consistent engagement of USAID representatives to ensure that the sector focus aligns well with their mission's CDCS, and so the RFA focus that emerges supports that strategy.
- Refinement of sectors and their gaps to the extent possible in advance of the conference so that more focused, collaborative work can be accomplished.
- Stronger emphasis on activities aimed at building the social capital necessary for effective partnerships with the capacity to make long-term, sustainable change.
- Engagement of participants (from the focus countries) to lead conference sessions, and therefore to ensure sustainability in the use of the methodologies introduced.
- Early preparation of researchers and practitioners, so that they are steeped in the purposes of LASER, the objectives and the methodologies of the conference, and are prepared to present and work on development gaps that they have identified as potential areas for collaboration.
- Sessions that allow for 'matchmaking' of potential collaborative partners

USAID FROM THE AMERICAN PEOPLE · Makerere University · Purdue University · CRS Catholic Relief Services · Indiana University · University of Notre Dame

Annex A: **LASER PULSE** Talking Points

- LASER PULSE promotes the discovery and uptake of research-sourced, evidence-based solutions to development challenges spanning all USAID technical sectors and global geographic regions.
- The LASER PULSE strategy ensures that applied research is co-designed with development practitioners, and results in solutions that are useful and usable.
- LASER PULSE does this by involving development practitioners upfront - from topic selection, research question definition, conducting and testing research, and developing translation products for immediate use.
- LASER PULSE views these processes as a 'embedded translation' of research, a process for which we create capacity through technical assistance to the research enterprise at Higher Education Institutions, and to implementing partners to enable the researcher/user partnerships to function effectively.
- The Research for Development Conferences (R4D) are the main outreach mechanisms through which LASER PULSE is able to provide training on the definition and operationalization of research translation.
- Promoting research that responds directly to a development challenge identified in partnership with implementers and 'translating' (applying) the research to generate evidence that can advance a country's journey to self-reliance.
- The R4D conferences are held in different regions semi-annually. They are hosted by a different LASER consortium member on a rotating basis.
- In addition to the regional R4D conferences, LASER PULSE will be undertaken strategic 'Fast Track' conferences, in countries where we expect to gain traction through institutional uptake and support of the model because of existing long-term partnerships, and/or other strategic opportunities in that country.
- The R4D conferences also provide training and participatory agenda-refinement on gaps and challenges in the research enterprise at universities. Without addressing barriers to good research, we cannot provide good translation outcomes.
- Finally, the R4D conferences promote a Purdue University-developed methodology, Comprehensive Success Factors (CSF), to refine the research agenda for LASER PULSE semi-annual research grant rounds. CFA 'issue trees' show from a systems-level focus, the factors must be present in any sector; which stakeholders are required; which gaps exist; and where there is sectoral interdependence.

- Speaking from a 'path to self-reliance' perspective: Academic discovery and innovation should be in service to a country's continued economic and social advancement. Evidence-based paths to development require collaborative partnerships between academic researchers and USAID (and other donor) implementers. LASER aims to jump-start such partnerships, through the conference, a post-conference *Development Research Translation Advisory Group,* and through research grants that require such collaborative partnerships, and can model them for others in the future.
- LASER's **definition of translation** is: a co-design process between researchers and practitioners, where research is intentionally applied to a development challenge, and from the beginning, the result is planned to be a tested solution adapted for use as a product, practice, or policy.
- Core to LASER's work is the research to translation value chain by **building capacity and linkages** among researchers and practitioners to translate international development research into real policy or practice change
- Translation is a **co-design process** that equally engages researchers and practitioners from the beginning and requires deep collaboration throughout
- Translation results are **field-tested development solutions** based on research, intended to flow through practitioner networks for wider application and greater research impact
- Translation necessitates that research application results must be **adapted into formats** that field-level practitioners can easily understand and use. They must be disseminated to the proper audience.
- Translated products facilitate the adoption of research into practice and can include **conference presentations, articles, posters, policy briefs, trainings, implementation manuals**, and more.
- Translated products are not the end result; they must be **disseminated** to stakeholders and applied for proper use, for the purpose of development policy impact.
- Translation impacts include **program or policy changes** at the local, regional, national, or international levels that have a positive development outcomes.